

REMARKS

Claims 1-24 are all the claims pending in the application. Claims 6-9, 12, 13, 15 and 18-21 are withdrawn from consideration. By this amendment, new claims 22-24 have been added.

Claims 2 and 14 are objected to for reciting “a plurality of first elements through hole-mounted.” Applicant respectfully submits that an exemplary explanation of through hole-mounting is found in paragraphs 30 and 32 and Fig. 2, and that claims 2 and 14 are clear.

Claim 10 is rejected under 35 U.S.C. § 102 (b) as being anticipated by U.S. Patent No. 5,864,478 (hereinafter “McCutchan”). Claims 1-5, 14 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over McCutchan in view of U.S. Patent No. 6,061,241 (hereinafter “Handforth”). Claim 11 is rejected under 35 U.S.C. § 103(a) as being unpatentable over McCutchan in view of Prior Art submitted by the Applicant (hereinafter “PA”). Claim 17 is rejected under 35 U.S.C. § 103(a) as being unpatentable over McCutchan in view of Handforth, as applied to claim 16 above, and further in view of PA. Applicant respectfully submits the arguments below in traversal.

Rejection of Claim 10 under § 102 (b) by McCutchan

Rejection of Claim 11 under § 103(a) over McCutchan in view of PA

Applicant adds the subject matter of claim 11 into claim 10 and cancels claim 11. Thus, the rejection of claim 10 is moot and the rejection of claim 11 is addressed in the Applicant’s arguments for the patentability of claim 10..

Applicant respectfully submits that a prima facie case of obviousness has not been established to properly combine the teachings of McCutchan and PA to render claim 10 unpatentable. In the Office Action, the Examiner concedes that McCutchan does not disclose the

first elements and the second elements as claimed, but alleges that PA discloses the first and the second elements. Further, the Examiner alleges that it would have been obvious to modify the teachings of McCutchan to incorporate the teachings of PA. Applicant disagrees.

Applicant points out that an aspect of the current invention is having second elements installed on a sub-board which is, in turn mounted on a mainboard. Therefore, any defect among the second elements would only require the disposal of the sub-board and not the entire mainboard.

In contrast, such elements were conventionally mounted directly on a backside of a mainboard. See paragraph 10-11. As a result, the conventional mounting of these elements would require the disposal of the entire mainboard due to a defect among the plurality of elements. See paragraph 10.

According to the Examiner, the second elements in PA would be mounted on the module 13 of McCutchan which further discloses that the module 13 is mounted on the motherboard 11. McCutchan describes the module 13 as a multi-chip module typically containing one or more high speed processors. See col. 3, lines 2-6. In other words, the module 13 would be a high-cost item.

As a result, if there are any defects in the second elements that are mounted on the module 13, then the entire module 13 would have to be disposed. Clearly, one skilled in the art would not modify the module 13 of McCutchan by adding additional components which would increase the possibility of defects occurring in the module 13, which, in turn, would necessitate the disposal of the entire high-cost module 13. Therefore, the Examiner's purported motivation for combining the teachings of McCutchan and PA, i.e., for the module 13 "to perform more

functionality,” is not supportable and one skilled in the art would not combine the teachings of McCutchan and PA.

For at least the above reasons, claim 10 is believed to be patentable.

Rejection of Claims 1-5, 14 and 16 under 103(a) over McCutchan in view of Handforth

Applicant respectfully submits that claim 1 is believed to be patentable over McCutchan and Handforth. Claim 1 recites:

An inverter power module for use in an electric and electronic product,
comprising:

a power block;

an inverter block;

a mainboard on which the power block is arranged; and

a sub-board on which the inverter block is arranged, wherein the sub-board is mounted on the mainboard.

(Emphasis added).

For example, McCutchan in view of Handforth fails to teach, suggest or provide motivation for the inverter block as claimed. In the Office Action, the Examiner concedes that McCutchan does not disclose the inverter block as claimed, but alleges that Handforth discloses an “inverter module 200.” Reference number 200 in Handforth, however, does not refer to an inverter module, but refers to a line card module 200. See col. 6, lines 35-36. Nowhere in Handforth is there any mention of this line card module 200 as having an inverter block as claimed, or even having any function that can be plausibly associated with an inverter block.

Therefore, claim 1 is believed to be patentable for at least the above reasons.

Claims 2-5 and 14, which depend from claim 1, are believed to be patentable for at least the reasons submitted for claim 1.

In addition, Applicant submits that claim 14 is patentable because McCutchan and Handforth fail to teach, suggest or provide motivation for a module wherein the plurality of first elements are dual-in-line package-mounted on the front side of the mainboard. Rather, the dc-dc power converter 15 cited by the Examiner as corresponding to the claimed power block is mounted via pins 43 and 45 and spring clips 27.

For reasons similar to those submitted for claim 1, claim 16 is believed to be patentable.

Rejection of Claim 17 under 103(a) over McCutchan in view of Handforth, as applied to claim 16 above, and further in view of PA

Claim 17, which depends from claim 16, is believed to be patentable for at least the reasons submitted for claim 16 and because the Examiner has not provided a valid motivation for combining the teachings of McCutchan, Handforth and PA, as pointed out above.

Applicant adds new claims 22-24 to more fully claim the invention and are believed to be patentable by virtue of their dependencies.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. §1.111
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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.


Respectfully submitted,

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